

Energy Management Training for K-12 Schools

Workshop #2: Raising Awareness and Involvement in Energy Management

A Tele-Workshop brought to you by:
*Colorado Governor's Office of
Energy Management and Conservation*

October 19, 2006



Rebuild Colorado Call Us When You ...



- ✓ Are strategizing **to upgrade** your buildings
- ✓ Are **planning a new building**
- ✓ Are **developing projects** for capital improvement budgets (internal funds, bonds or grants)
- ✓ Want to **use energy savings to pay for projects**
- ✓ Want to **bring energy costs under control**
- ✓ Want to **improve comfort and solve maintenance problems**



www.colorado.gov/rebuildco



Your Rebuild Colorado School Team

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**Rebuild Colorado helps schools identify and assess
energy-saving projects in buildings,
and helps make those projects a reality!**



Energy Management Program - Raising Awareness and Involvement among Stakeholders.

Colorado Springs School District No. Eleven

Sponsored by the Governor's Office of Energy Management
and Conservation

October 19th, 2006

RCM – Resource Conservation Management

“An RCM program is a well-coordinated effort to manage the resources and services used, and the waste generated, by your facilities. It involves careful tracking of resources and attention to operational efficiency. The Program focuses on occupant comfort, cost-effectiveness and assuring that equipment is used only when needed. Operational savings are gained through organization, analysis and COMMUNICATION.”

Resource Conservation Management pamphlet published by the Oregon Office of Energy

Energy Program Highlights

Colorado Springs School District No. 11

Facilities, Operations and Transportation Department

- ✓ Energy Management program launched July 1998
- ✓ FY98 Combined Energy Costs - \$2.6 million
- ✓ FY98 Combined Energy Use KBTU/SF – 91.9
- ✓ FY05 Combined Energy Costs - \$3.9 million
- ✓ FY05 Combined Energy Use KBTU/SF – 74.1
- ✓ 19% energy reduction /SF
- ✓ Leader in Energy Management Award 2005
- ✓ Net RCM Program Avoided Utility Costs - \$6.5 Million
- ✓ FY 05-06 Net Energy Savings- \$875,000

Obstacles to Success

- ✓ Lack of Upper Management Commitment!
- ✓ Lack of communication and coordination with stakeholders.
- ✓ Early failures – perception that the program is a waste of time, not worth the effort.
- ✓ Lack of a personal presence – identifying an individual or individuals behind the program.
- ✓ Bad PR via word of mouth, negative perceptions based on early failures.

Raising Awareness and Involvement among Stakeholders

- ✓ Secure the commitment of top level leadership – you will not create lasting results in your organization without their support.
- ✓ Seek assistance when developing your energy management plan and Team: Peers, Professional Associations, Consultants, Energy Services Companies.
- ✓ Who are your stakeholders? Custodians, Administrators, faculty and staff, students, community, customers.
- ✓ Advisory Committee made of influential individuals who understand your organization.
- ✓ Define financial and non-financial goals. Stakeholders must understand energy cost.

Raising Awareness and Involvement among Stakeholders – continued.

- ✓ Build the tools of successful energy management to track goals and communicate the story.
- ✓ Using the energy tools identify opportunities for savings, inefficient and ineffective.
- ✓ Share the victories and success stories!
- ✓ Energy Incentives to stakeholders— what form? Cash back, direct billing, budget.

Sample Checklist – RCM

Implementation Tasks

- ✓ Task 1 - Top Level Management Support – Written Energy Policy
- ✓ Task 2 - Develop the Energy Management Plan
- ✓ Task 3 – Energy Management Team, Stakeholders
- ✓ Task 4 - Organize Energy Advisory Committee made up of stakeholders
- ✓ Task 5 - Identify Measurable Goals and Objectives for the Program
- ✓ Task 6 - Organize Utility Accounting Database, and other energy tools
- ✓ Task 7 - Identify inefficient and ineffective
- ✓ Task 8 - Build Team of Site Energy Coordinators
- ✓ Task 9 - Conduct Energy Audits
- ✓ Task 10 - Draft and Present Building Use Guides
- ✓ Task 11 - Earn support of faculty and maintenance staff
- ✓ Task 12 - Award Energy Incentive Dollars

Written Energy Policy

- ✓ Clearly stated purpose.
- ✓ Define who is accountable in the organization for the success of the Energy Management System.
- ✓ Clearly defined mission and structure for the energy management team and Chain-of-Command.

School Board Policy

ENERGY CONSERVATION MANAGEMENT

Introduction

The Board of Education recognizes that it is important that the District be ecologically responsible by conserving non-renewable energy resources there by minimizing energy pollution damage to our environment. It is equally important, as steward of public taxes, for the District to prevent wasted dollars being diverted away from District's educational mission.

As the District's energy needs continue to grow and as energy supply rates continue to escalate, it becomes ever more important to manage that growth and to minimize related costs. The Board believes that each member of the District Eleven Community play an important part in the management of energy consumption and encourages all to participate. Accordingly, the Board directs the Superintendent or Superintendent's designee to establish a long-term sustainable energy management program, which will be overseen by an on-going energy advisory committee.

Scope

The primary objective of this energy management program will be to heighten awareness of all District employees and students to the cost of energy associated with the use of District's facilities, and get their active participation in efficient use of energy through continuous education and incentives.

Efficient use of energy at each site will be the joint responsibility of the administrator for each site, a designated site energy coordinator, the District's Energy Manager and the Energy Advisory Committee.

An Energy Report shall be presented to the Board annually.

Adopted June, 2000

Establish the Energy Team

- ✓ Cross-functional team, made up of stakeholders, professionals, consultants, technicians.
- ✓ Make a habit of having regular meetings.
- ✓ Share Ideas.
- ✓ Evaluate and Review ideas. Education and training at every opportunity.

Energy Advisory Committee

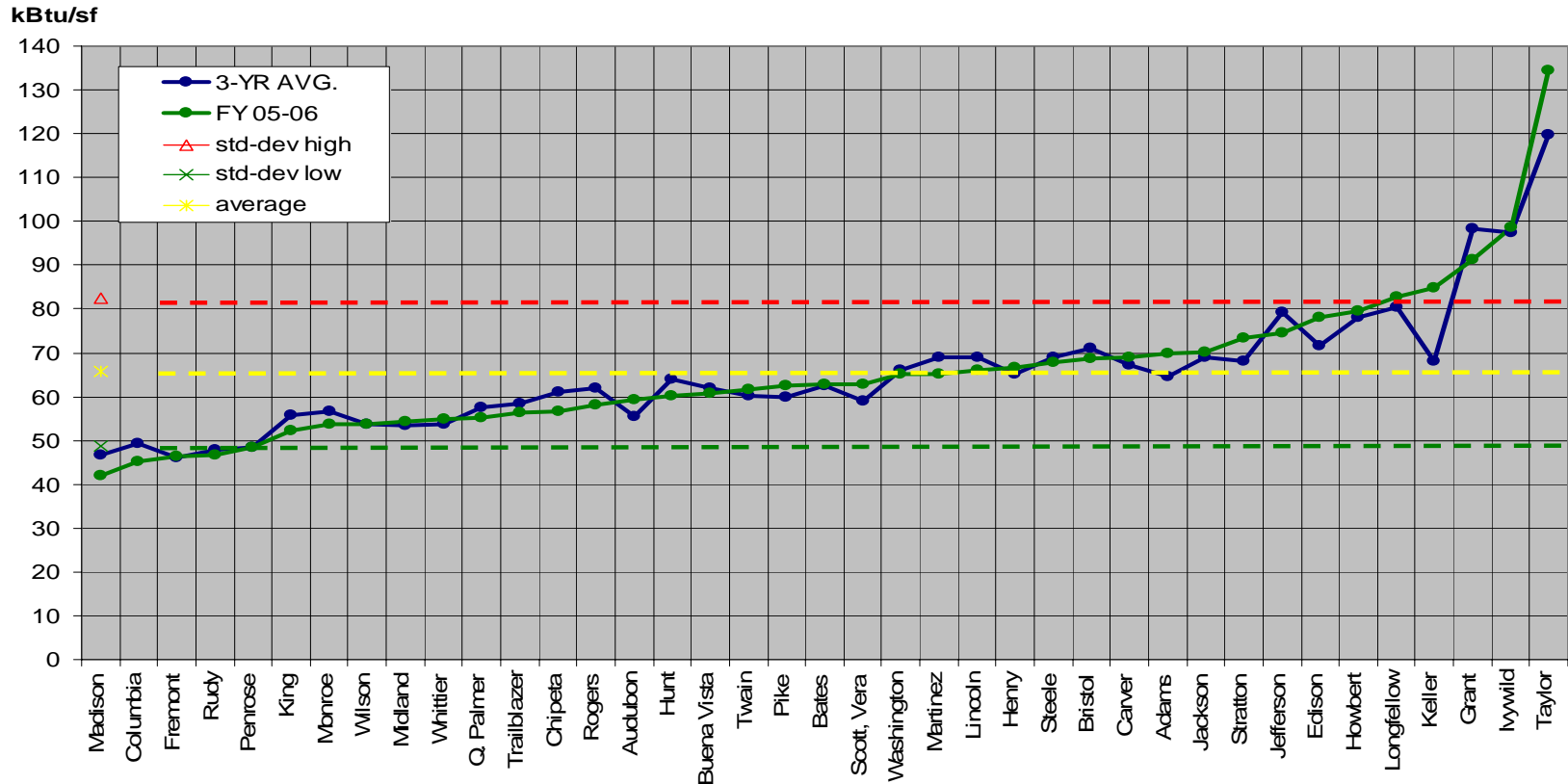
- ✓ Membership from the schools, communities.
- ✓ Invite utility company representatives.
- ✓ Invite your ESCO representatives - they need to see the commitment throughout the organization.
- ✓ Invite Administrators, teachers, building managers from all levels - this will help to win them over on projects or changes at their school.
- ✓ EAC must assist in designing Energy Incentive Awards.

Define Key Performance Indicators – (KPI)

- ✓ Effective measured using energy use KBTU/SF, Pupil
- ✓ Efficient measured using energy cost/SF
- ✓ Share Key Performance Indicator data with your energy team monthly/quarterly.
- ✓ Highlight Outliers (+/- 1 degree of Std. Dev.)
Find out why?

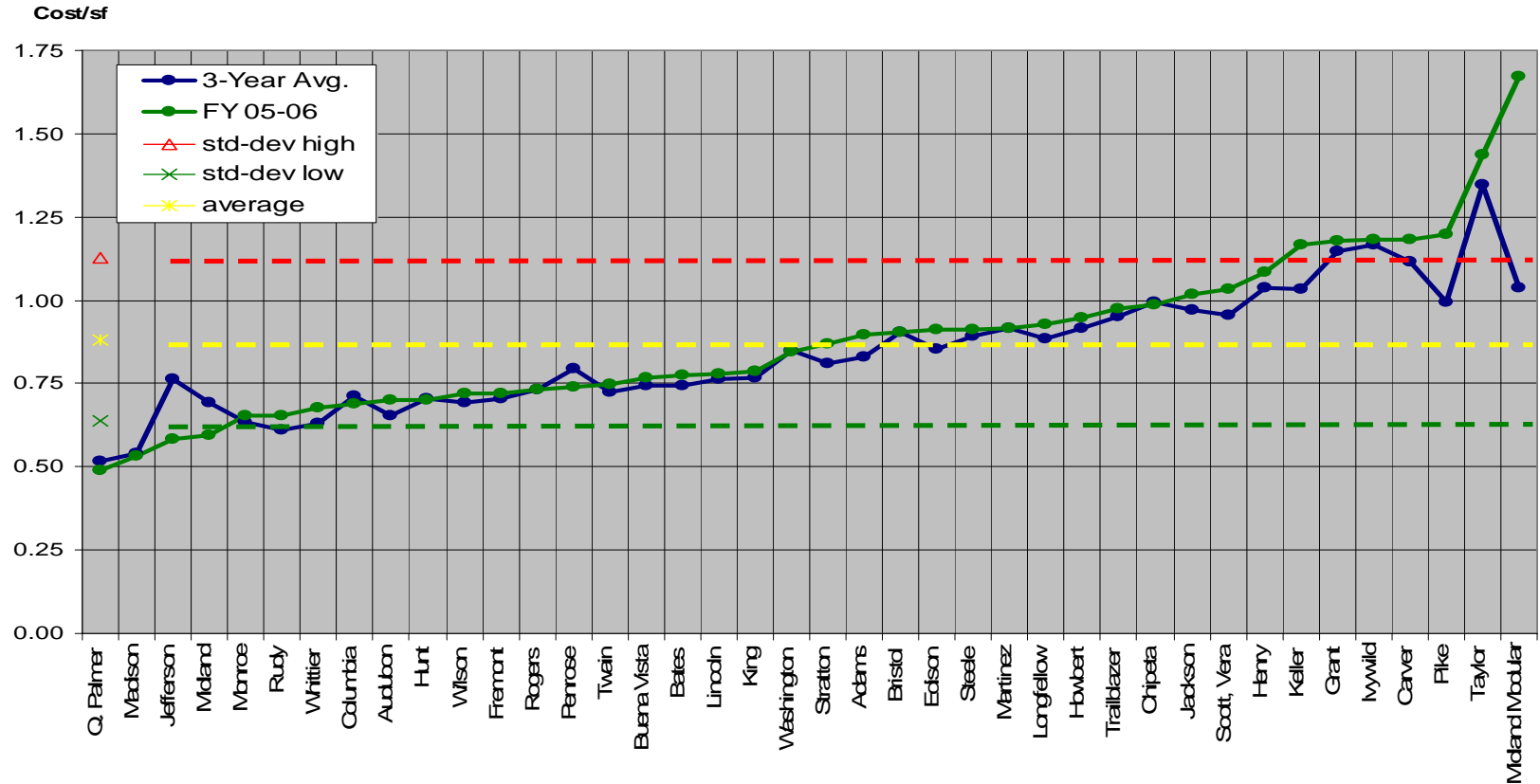
Key Performance Indicator Effective (KBTU/SF)

Elementary Schools FY0506 Energy Use Index



Key Performance Indicator Efficient (\$/SF)

Elementary School FY 05-06 Energy Cost Index



Energy Management Tools

- ✓ Utility Billing
- ✓ Utility Accounting Database – Reporting
- ✓ Building Use and Operation Guides
- ✓ Interval sub-metering data system (electric, gas, water)
- ✓ Microsoft Excel, Access, data tables, reports and charts
- ✓ Energy Auditing Program – Security Patrols
- ✓ Energy Report Card – stakeholders can view utility data

Building Use Guides

- ✓ With top management behind you – put some teeth in the policy.
- ✓ Building Use Guides should contain the energy policy, energy program overview, building and equipment guidelines, contact information.
- ✓ Building Use Guides to arm the Site Energy Coordinator.

Energy Coordinators

- ✓ “Energy Champion” – inspires others to care about energy conservation, able to teach the guidelines, respected by the organization.
- ✓ Many skills, including technical.
- ✓ A quick learner!
- ✓ Uses energy management tools to communicate with others.

Activating and Educating Stakeholders

- ✓ Site Energy Coordinators, Facilities Managers, Administrators, Faculty, Staff, Students, Community, Neighbors, Rental Groups, Contractors, Consultants, Energy Services Company Representatives.



Bug Busters – hand-picked elementary school students responsible for cleaning computer monitors, CPUs and peripherals, shutting down system at the end of each day.

Incentive Dollars

- ✓ Money is an incentive – even in small amounts it gets peoples' attention. Principals, Building Managers and Teachers.
- ✓ Make sure that the stakeholders know how to earn an incentive. KPI?
- ✓ Give them the opportunity to earn more, or lose it all.
- ✓ Make notes on every adjustment, every calculation; you will be challenged!
- ✓ Track energy dollars by site and by year. Sometimes it helps to remind a recipient how much they have received in the past, or overall.

Thank You!

✓ Any Questions!

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